

# Notice of Allowability

Application No.

09/901,580

Examiner

Joshua L. Pritchett

Applicant(s)

WILLS ET AL.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment and Terminal Disclaimer filed February 10, 2006.
2. ☒ The allowed claim(s) is/are 1-23,28-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Matt Pequignot on March 8, 2006.

The application has been amended as follows:

The abstract should be amended to read as follows

- An isolated polarization beam splitter or combiner, for joining light from different inputs into one common port, and for dividing a beam of light into orthogonal polarizations. In both modes of operation, the splitter/combiner provides isolation preventing transmission of light in a reverse direction. As a splitter, a beam of light is separated through a birefringent material into sub-beams of orthogonal polarization components, and each sub-beam is passed through a non-reciprocal polarization rotator to rotate the polarization so that a reflected beam, or other counter-transmitted light cannot return on the same path through the birefringent material to the source. As a combiner, two separate beams of light are launched with known orthogonal polarizations into a first birefringent material, passed through a non-reciprocal polarization

rotator and then combined as orthogonal polarizations into a single output port.—

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The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 28 and 31, the prior art fails to teach or suggest an isolated polarizing optical beam splitter/combiner comprising a first port for launching a beam of light into the splitter/combiner when operating as a splitter, and for outputting a combined beam of light from the splitter/combiner when operating as a combiner; second and third spaced apart ports for launching orthogonally polarized beam of light into the splitter/combiner for combining and outputting the first port when operating as a combiner, and for outputting orthogonally polarized beams of light, which were input together at the first port, when operating as a splitter; a first polarization beam splitter optically coupled to the first port, oriented to provide different optical paths for two orthogonally polarized beams of light; a second polarization dependent beam steering means optically coupled to the second and third ports, oriented to provide different optical paths for two orthogonally polarized beams of light; and a nonreciprocal rotator capable of rotating the polarization of a light beam in one direction but having no cumulative effect in the other direction.

The remaining claims depend from claims 1 and 28 and are allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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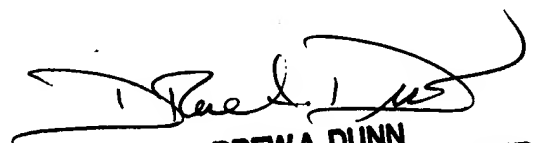
fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP



**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**